

Reply to Office Action of 05/26/2005  
Amendment Dated: August 16, 2005

Appl. No.: 09/824,844  
Attorney Docket No.: CSCO-007/3484

### REMARKS

Claims 1-45 were examined in the outstanding office action mailed on 05/26/2005 (hereafter "Outstanding Office Action"). The rejection of claims 1 -3, 5-19, 21 -28, 30-43, and 45 under 35 U.S.C. 103(a) as being unpatentable over Barrett (2003/0135644) in view of Wang et al. (US 6,538,997), was maintained by stating that the affidavits submitted under 37 CFR § 131 were inadequate. In addition, Claims 1-7, 9-13, 17-22, 26-32, 39, 42, and 44 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US 6,538,997) in view of Welcher ("Discovering Cisco Discovery Protocol"). Claims 8, 9, 32 and 33 were rejected under 35 U.S.C. § 112.

Applicants again thank the Examiner for the detailed examination and numerous valuable suggestions.

In response, another affidavit by the undersigned representative is submitted to swear behind the reference date of Barrett reference, and claims 1, 2, 5, 11-14, 16-18, 21-27, 30, 35-37, and 39-45 are sought to be amended. The amendments are believed not to introduce new matter, and their entry is respectfully requested. Withdrawal of the rejections is respectfully requested further in view of the following remarks.

### Telephone Interview

Applicants and the undersigned representative thank the Examiner for providing the opportunity to conduct the telephone interview on August 16, 2005. Only the undersigned representative and the Examiner were present in the interview. A draft amendment containing some of the contents of this paper were sent in advance to the Examiner and discussed in the interview. In particular, formalities with respect to affidavit practice and the Wang reference were briefly discussed.

The Examiner had indicated that the Interview Summary Form PTOL-413 would be

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mailed in due course. It is respectfully requested that the completed form be mailed at the Examiner's earliest convenience, if one has not already been mailed.

The applicant is believed to have met the burden of making of record the Substance of the Interview. See MPEP 713.04 for further clarification.

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### **Affidavits**

In Page 2, point number 3, the Examiner had rightly pointed out that the applicants intend to show invention of the claimed subject matter prior to the Jan. 24, 2001 date established by US Patent Application Publication 2003/0135644, to Mark A Barrett, by showing conception of the invention prior to Jan. 24, 2001 coupled with due diligence  
10 from prior to Jan. 24, 2001 to the filing date of the present application, April 2, 2001.

Applicants now address the various objections raised by the Examiner in the corresponding section of the Outstanding Office Action.

### **Conception**

In page 4, point 8 of the Outstanding Office Action, it was asserted that, "For  
15 example, the exhibit uses several terms that do not appear in the claims, such as EARL table, l2trace, mac address, and Catalyst switch. It is unclear how these elements relate to the elements in claim 1, if at all." The noted terms are sought to be explained below briefly.

EARL Table: For the purpose of the subject application, it is sufficient to understand that the table include various layer-2 information such as the specific  
20 port/interface on which a packet with a layer-2 address needs to be forwarded.

L2Trace: The term stands for layer-2-trace, and is intended to represent the layer-2 routing (contrasted with network layer, known to be provided in the prior art) information

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provided by various aspects of the present invention.

MAC address: MAC stands for media-access-control, and can be viewed as a layer-2 address in Ethernet type environments.

Catalyst Switch: An example switch in which the inventors had implemented the various features described in the patent application.

In point 9, starting towards the end of page 4 of the Outstanding Office Action, it was asserted that:

9. With further regard to exhibit D, and step 3 in section 3.0. Step 3 recites "If C1 cannot detect the neighbor IP address on c1b or if the device connected to c1b is not a Catalyst switch of the series C5000 or C6000, 12trace will be aborted with appropriate error message" (emphasis added). This clearly shows that at the time exhibit D was created, the system only worked if the devices were Catalyst switches of the series C5000 or C6000. While the specification of the present application mentions an embodiment in which the devices are Catalyst 5000/6000 switches, no reference to Catalyst switches of the series C5000 or C6000 appears in the claims. In fact, the claims refer to "any intermediate layer-2 device". Therefore, exhibit D, at most, could only be used to show conception of one embodiment disclosed, but not claimed, of the present application. (Point 4 of Outstanding Office Action, Emphasis in Original)

As a threshold matter, Applicants respectfully request the Examiner the 'legal' basis for the various objections raised in the above noted point. With respect to the statement that, "no reference to Catalyst switches of the series C5000 or C6000 appears in the claims", it is Applicants' understanding that the claims merely need to read on the content of the application (specification and drawings), and that requirement is believed to be met.

Irrespective, in the interest of compact prosecution, it is noted that the embodiments of the detailed description of the subject patent applications also require some cooperation from various devices (e.g., present layer-2 device to generate and send the response

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packet) in the intermediate as noted at least in the section below:

The receiving device may then receive a response packet from the present layer-2 device. The response packet indicates whether the destination system is connected directly to the present layer-2 device, and if not, a subsequent layer-2 device in a route to the destination system if the destination system is not connected directly to the present layer-2 device. The subsequent layer-2 device represents the next (after the present layer-2 device) layer-2 device in the route to the destination system.

(Lines 1-6 Page 5 of the specification)

In other words, the "present layer-2 device" in the quoted language of the specification needs to perform cooperative actions for the features to be provided by the disclosed embodiments. Accordingly, it is pointed out that the one or more of the described embodiments are consistent with the portion of the text (step 3 in section 3.0) of Exhibit D, pointed out above in the Outstanding Office Action.

Withdrawal of the objection of point 9 (pages 4-5 of the Outstanding Office Action) is respectfully requested.

In point 7 starting towards the end of page 3 of the Outstanding Office Action, it was stated that:

With further regard to exhibit D, the description of the document is insufficient. Applicant merely cites large sections of the document and alleges that those sections demonstrate that "we had conceived of a system and method for tracing layer-2 route in networks based on broadcast medium" (Par. 3 of inventor declarations). Applicant must give a clear explanation of the exhibits, pointing out exactly what facts are established and relied upon by Applicant. (SEE MPEP 715.07). It should be noted that Applicant must show conception of the claimed invention, and a general assertion that Applicant conceived of a similar system is not sufficient. (Emphasis in Original)

The relevant portions of exhibit D supporting claim 1 are pointed to in the below table:

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Ser. #	Claimed Element	Support in Exhibit D
1	A method of processing a command requesting information on any intermediate layer-2 devices present in a route from a first system to a second system, said any intermediate devices being contained in a network implemented on a broadcast medium, said network containing a plurality of devices including said any intermediate devices, said method comprising:	Section 2.0 Problem Definition "... the path which packets are following in the level 2 devices when going from the source to the destination... The l2trace information for the intermediate devices will include ...  Also, step 1 of section 3.0 "user requests for l2trace from mac address of A to mac address of B..."
2	receiving said command in a receiving device;	Section 5.0 User Interface and step 1 of section 3.0; (Receiving device = C1)
5 3	sending a request packet from said receiving device to a present layer-2 device requesting information on whether said second system is connected directly to said present layer-2 device;	step 4 of section 3.0 (Present layer-2 device = C2)
4	receiving by said receiving device a response packet from said present layer-2 device, wherein said response packet indicates whether	step 6 of section 3.0 ("C1 ... receiving a reply from C2"); Steps 5 (packet content

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said second system is connected directly to said present layer-2 device, wherein said response packet further identifies a subsequent layer-2 device in a route from said present layer-2 device to said second system if said second system is not connected directly to said present layer-2 device, wherein said subsequent layer-2 device is next to said present layer-2 device in said route to said second system; and

- 5 repeating by said receiving device said sending and receiving by using said subsequent layer-2 device in the place of said present layer-2 device until said response packet indicates that said second system is directly connected to said present layer-2 device.

Thus, the conception of claim 1 is supported by Exhibit D.

10 Examiner appears to agree that conception of claim 12 is similarly supported (Page 4, point 8, lines 5-7 of Outstanding Office Action). Applicants nevertheless point to step 5 of Exhibit D as supporting the conception of claim 12. Alternatively or in addition, Applicants rely on the same arguments provided with respect to claims 39-45 below.

With respect to claims 39-45, in page 4, point 9 lines 7-13, it was stated that:

- 15 ... However, it is unclear which sections, if any, show the subject matter of claims 39-45. The document appears to be describe a software application, and contains no description of devices containing *interfaces, next hop blocks, and/or generate request/response blocks or any of the components claimed in claims 40-45*. The description currently provided by applicant does not allow a complete

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analysis of the fact in order to determine conception without requiring speculation as to the meaning and content of the document.  
*(Emphasis Added)*

Applicants first note the applicable standard for the necessary showing (from  
5 MPEP § 715.02) complained of:

... In other words, *where the examiner*, in rejecting a claim under 35 U.S.C. 103, *has treated* a claim limitation *as being an obvious feature or modification of the disclosure of the reference(s) relied upon*, without citation of a reference which teaches such feature or modification, a 37 CFR 1.131 affidavit or declaration  
10 may be sufficient to overcome the rejection even if it does not show such feature or modification.

Further, a 37 CFR 1.131 affidavit is not insufficient merely because it does not show the identical disclosure of the reference(s) or the identical subject matter involved in the activity relied upon. If the affidavit contains facts showing a completion of the invention commensurate with the extent of the invention as claimed *is shown in the reference or activity*, the affidavit or declaration is sufficient, whether or not it is a showing of the identical disclosure of the reference or the identical subject matter involved in the activity. See *In re Wakefield*, 422 F.2d 897, 164 USPQ 636 (CCPA 1970).  
15  
20 (MPEP Section 715.02, *Emphasis Added*)

From the above, it is believed that the Applicants need not show "interfaces, next hop blocks, and/or generate request/response blocks or any of the components claimed in claims 40-45" to the extent the Examiner has treated such claim limitations as being an obvious feature or modification of the disclosure of the reference relied upon.

25 Indeed the Examiner appears to have treated the complained of elements as obvious features/modifications from Barrett reference, based on the below text:

With regard to claim 39, Barrett discloses a device for supporting the tracing of a route containing a sequence of devices between a first system (transmitting node) and a second system (receiving node), said device being comprised in a network based on a broadcast medium, said device comprising: an inbound  
30 interface receiving a request packet (requests are made via SNMP) (Par. 54) containing an identifier for said second system, wherein said request packet requests information on whether said second system is connected directly to said device (Par. 14-15); a next hop block determining whether said device is

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connected directly to said second system (Par. 15); a generate request/response block generating a response packet, wherein said response packet indicates whether said device is connected directly to said second system (Par. 15); an outbound interface sending said response packet (Par. 15) (Also see Par. 53-58). However, Barrett fails to specifically disclose that the devices are layer-2 devices. (Point 42, Page 12, Prior Office Action Mailed June 18, 2004)

In other words, it is the Applicants belief that the disclosure in Barrett relied upon by the Examiner does not show the level of detail requested by the Examiner any more than what is presented in Exhibit D, and thus Applicants also are believed not to be required to show the requested level of detail in the Exhibits.

For one or more of the reasons noted above, the conception of all the independent claims presented for consideration is believed to be established. Accordingly, at least in view of the above remarks and the exhibits of record, all the objections raised with respect to conception are believed to be adequately addressed.

#### **Diligence**

In points 11 - 15 on pages 5 and 6 of the Outstanding Office Action, the Examiner had asserted that the evidence of record does not establish the required diligence to overcome the Barrett reference.

In response, the undersigned representative has submitted a new declaration herewith. As requested by the Examiner, the attached affidavit by the undersigned representative contains the specific dates. It is believed that the affidavit overcomes the objections.

#### ***Claim Rejections 35 U.S.C. § 112***

With respect to claims 5 and 30 rejected in point 17 page 7, each claim is sought to be amended to recite "performed by said receiving device" as recommended by the



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Examiner. The Examiner is thanked for the recommendation and withdrawal of the rejection is respectfully requested.

With respect to claim 8 rejected in point 18 page 7, it is noted that claim 8 depends from claim 5, which has been amended to depend from claim 5. Claim 5 recites 'a  
5 receiving device' providing the necessary antecedent basis for claim 8. Withdrawal of the rejection with respect to claim 8 (and also dependent claim 9) is respectfully requested.

With respect to claim 32 rejected in point 18 page 7, the claim is sought to be amended to depend from claim 30, which recites 'a receiving device' providing the necessary antecedent basis for claim 32. Withdrawal of the rejection with respect to claim  
10 32 (and also dependent claim 9) is respectfully requested.

All the rejections under 35 U.S.C. § 112 are thus believed to be addressed.

***Claim Rejections 35 U.S.C. § 103***

In point 21 of the Outstanding Office Action, claims 1 -3, 5-19, 21 -28, 30-43, and 45 were rejected under 35 U.S.C. 103(a) as being unpatentable over Barrett  
15 (2003/0135644) in view of Wang *et al* (US 6,538,997). In point 22 of the Outstanding Office Action, claims 4, 20, 29, and 44 were rejected under 35 U.S.C. 103(a) as being unpatentable over Barrett (2003/0135644) in view of Wang *et al* (US 6,538,997) in further view of Murhammer *et al*.

In view of the attached affidavits, exhibits, and remarks that are of record, the  
20 rejections of points 21 and 22 are believed to be overcome.

In point 24 of the Outstanding Office Action, claims 1-7, 9-13, 17-22, 26-32, 39,42, and 44 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et

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al. (US 6,538,997) in view of Welcher ("Discovering Cisco Discovery Protocol").  
Applicants respectfully traverse.

With respect to claim 1, it recites in relevant parts:

5 A method of processing a command requesting information on any intermediate layer-2 devices present in a route from a first system to a second system, said any intermediate devices being contained in a network implemented on a broadcast medium, said network containing a plurality of devices including said any intermediate devices, said method comprising:  
receiving said command in a receiving device;

10 *sending a request packet* from said receiving device to a present layer-2 device requesting information on whether said second system is connected directly to said present layer-2 device;

15 *receiving by said receiving device a response packet from said present layer-2 device*, wherein said response packet indicates whether said second system is connected directly to said present layer-2 device, wherein said response packet further identifies a subsequent layer-2 device in a route from said present layer-2 device to said second system if said second system is not connected directly to said present layer-2 device, wherein said subsequent layer-2 device is next to said present layer-2 device in said route to said second system; and

20 *repeating by said receiving device* said sending and receiving by using said subsequent layer-2 device in the place of said present layer-2 device *until said response packet indicates that said second system is directly connected to said present layer-2 device.*

(Currently Amended Claim 1, *Emphasis Added*)

25 Thus, a receiving device in accordance with Currently amended claim 1 sends packets to successive layer-2 devices in a path (and receives corresponding response packets to determine the next layer-2 device in the path) from the first system to a second system until the last layer-2 device in the path is detected.

30 Wang does not disclose or suggest such a feature. Applicants' basis for such an assertion is explained now. First the relevant disclosure of Wang is noted:

A detailed description of embodiments of the invention is provided with reference to the figures. An embodiment of the invention includes a method of performing a trace of a multicast path at layer-2. *A trace request packet is sent to the source node in the path. The source node and respective intermediate nodes*

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5 *send the layer-2 trace packet to nodes along the path according to information on the respective nodes regarding the path. Nodes insert data into the packet before forwarding the packet along the path. When the packet is received at a destination node, a response is sent to another node, such as a network management node.*

(Col 2, lines 46-56 of Wang, *Emphasis Added*)

10 Destination node 111 forwards a layer-2 trace response packet 126 to trace response node 113. *This response packet 126 includes information regarding the path that was taken by the respective trace packets 124 and 125* including, to the extent that nodes along the way implemented layer-2 trace logic, the nodes through which the trace packets have passed and other information, such as the time that the packet passed through respective nodes and ports through which the trace packet passed.

(Col 3, lines 32-39 of Wang, *Emphasis Added*)

15 From the above, it is concluded that a trace request packet of Wang traverses the sequence of devices in the path (successively) from the source node to the destination node.

20 There is no disclosure or suggestion in Wang for intermediate nodes to send corresponding responses back to a single receiving device, as claimed in currently amended claim 1. Welcher does not fill that void.

Accordingly, claim 1 is believed to be allowable over the art of record.

25 Currently amended claim 12 is also allowable at least as reciting that the layer-2 device there receives a request packet from a central device and sends the response packet to the same central device irrespective of whether said central device is in said route or whether said layer-2 device is a last device in said route.

From the above explanation, it may be appreciated that only the destination node of Wang would send a response packet to a central network management station.

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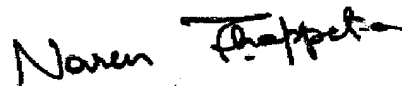
Accordingly, claim 12 is also believed to be allowable over the art of record. The remaining independent claims are also allowable over the art of record for reasons similar to those explained above. The dependent claims are allowable at least as depending from corresponding allowable base claims.

5

*Conclusion*

Thus, all the objections and rejections are believed to be overcome, at least in view of the above amendments and remarks, and that all the presented claims are in condition for allowance over the art of record. The Examiner is invited to telephone the undersigned representative if it is believed that an interview might be useful for any reason.

Respectfully submitted,



Date: August 3, 2005

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